REMARKS

Claims 1 through 18 have been cancelled in favor of new claims 19 through 22. The latter are method claims and are directed to what is the thrust of the present application, i.e., a methodology for expanding the capability of presently existing portable, thermal imaging cameras, such as applicant's camera, Model # 7400, to now allow them to make accurate temperature measurements in high temperature environments as exist in refineries and power plants. The specification and Abstract have been amended accordingly. No new matter has been added. As amended, Applicant requests a reconsideration of the application and examination of the new claims; and in view of the accompanying arguments set forth below, the allowance and passing to issue of this case.

The Office Action

The examiner has provided a thorough presentation of relevant prior art and a consideration of the new claims in view of that art follows. First of all, a consideration of the application of that art to the original claims is noted.

The examiner rejected "[c]laims 1-2 and 6-13 ...under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,515,285 B1) in view of Ariessohn et al (US RE 33,857) and Cole et al (US RE 37,146E)."

"Claims 3-5 ...[were] rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,515,285 B1), Ariessohn et al (US RE 33,857) and Cole et al (US RE 37,146E) as applied to claim1 ..., and further in view of Wood et al (US 5,675,149 A).

And, "[c]laims 14-18 ... [were] rejected under 35 U.S.C. 103(a) as being unpatentable over Marshall et al (US 6,515,285 B1) in view of Ariessohn et al (US RE 33,857), Cole et al (US RE 37,146E) and Wood et al (US 5,675,149A)."

The Principal Reference – Marshall et al – USPN 6,515,285 B1

The following Figure and specification cites that appear in the action as to this reference alone are noted:

A. Citations as to originally filed claims 1, 3-5, and 14

1. col. 36, lines 9-16;
2. Fig. 1A and col. 6, lines 11-17;
3. Fig. 1A and col. 11, lines 35-53;
4. col. 31, lines 30-48, first time;
5. Fig. 1D and col. 10, lines 34-53, first time;
6. col. 31, lines 30-48, second time;
7. Fig. 1D and col. 10, lines 34-53, second time;
8. col. 31, lines 30-48, third time;
9. col. 39, lines 33-42;
10. Figs. 28A-28C and col. 34, lines 7-31.

B. Citation as to originally filed claim 2

1. col. 11, lines 47-53, and col. 34, lines 50-67.

C. Citation as to originally filed claims 6-9

1. Fig. 1A and col. 31, lines 30-48.

D. Citation as to originally filed claims 10 and 15

1. col. 39, lines 16-24.

E. Citation as to originally filed claims 11 and 16

1. col. 31, lines 30-48.

F. Citation as to originally filed claims 12 and 17

1. col. 31, lines 30-48.

G. Citation as to originally filed claims 13 and 18

1. col. 31, lines 30-48.

The Secondary Reference – Ariessohn et al (US RE 33,857)

The following specification citation for this reference appears in this action as having application to all originally filed claims.

1. col. 2, lines 50-60.

The Secondary Reference – Cole et al (US RE 37,146E)

The following specification citation for this reference appears in this action as having application to all originally filed claims.

1. col. 2, lines 24-36.

The Secondary Reference – Wood et al (US RE 37,146E)

The following specification citation for this reference appears in this action as having application to claims 3-5 and 14-18.

1. col. 2, lines 47-56.

Application of the aforementioned citations to the newly submitted claims

Marshall et al

The principal thrust of this application is to compensate a radiation sensor for ambient temperature variations. It is not concerned with the enhancement of the capabilities of a portable hand-held instrument as the present invention, but has relevance to the general state of the art in the area of UFPAs and their application.

Consider the citations and the applicant's comments as they relate to the new claims

A. Citations as to originally filed claims 1, 3-5, and 14

1. col. 36, lines 9-16; "In addition, another advantage of using the above described uncooled IR sensors for the fire fighting application is that the detector devices described above are DC coupled and therefore can be mapped to a display for example with the equalization controller 58 (see FIG. 4), as discussed above, to provide both a positive and a negative temperature dynamic range that may be viewed with the sensor."

It is not apparent that this is a clear reference to a range of temperatures but rather a positive or negative excursion from a center temperature.

2. Fig. 1A and col. 6, lines 11-17; "FIG. 1A is a diagram showing a package 76 that encloses a radiation sensor array 102, processing circuitry 108 associated with the radiation sensor array 102, and a temperature controller 84 for the radiation sensor array 102 and the processing circuitry 108. In FIG. 1A, the package 76 is shown mounted to a portion of a circuit board 2060 via a heat sink 78, according to one embodiment of the invention."

It is not apparent how this is a reference suggesting an "intervening media having a known transmission wavelength, [and a].. target surface(s) having a known absorptive wavelength".

3. Fig. 1A and col. 11, lines 35-53; "The adjustable optics 106 of the uncooled IR sensor may be manually or automatically focused to either focus or defocus a scene to be viewed by the uncooled IR sensor. A user can simply manually adjust the manual focus of the optics, or the display processor may include an auto focus mechanism (not illustrated) to move the optics to focus and defocus the scene. As will be discussed in greater detail below, the display processor may also include a panel of control buttons 96, wherein one control button 97 may be used to control the focus mechanism of the optics in the manual mode.

The optics 106 of the IR sensor 104 may be any of a plurality of standard optics that are hand-adjustable, motorized, or athermalized. In particular, FIG. 1E illustrates a plurality of manually adjustable lenses, motorized lenses or athermalized lenses having various apertures (mm/in), field of views (FOV)a F/No.(H), EFL (mm). Any of these lens assemblies may be attached to the uncooled IR sensor."

The use of lenses in the prior art, of course is acknowledged. The type("germanium") and coating characteristics("anti-reflection coating having a spectral band width of 3um to 14 um for each of [the] lenses forming [the]optical assembly" and their use as part of the methodology for enhancing the capabilities of a hand-held instrument are not suggested by this citation.

4. col. 31, lines 30-48, first time; "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

Just above this citation in the Marshall patent, it talks to the expansion of the bandwidth through the addition of "an additional layer of ... VO_x" (col. 31, lines 21, 22). In the presently claimed invention, there is no element of the methodology related to the UFPA directly. Further, the text of the citation suggests that this additional inherent capability of the UCPA over a wider band is advantageous for one and the same event (e.g., a "threat warning") so as to improve performance "by reducing false alarms and providing a higher probability of detection", irrespective of wavelength of the target surface. The present methodology seeks to establish in the same instrument a capability in two separate bandwidths, for respective events in one or the other of the two, not one event where the performance of the entire bandwidth is required.

5. Fig. 1D and col. 10, lines 34-53, first time; "FIG. 1D illustrates a schematic block diagram of an embodiment of an uncooled infrared sensor 104 according to the present invention. With the imaging system of FIG.

1D, electromagnetic radiation such as, for example, infrared radiation in a wavelength range of 8-14 .mu.m may be incident upon optics 106, focussed by the optics such as, for example, a lens to provide a focussed electromagnetic signal at output 107. The focussed electromagnetic signal is imaged onto an uncooled focal plane array (FPA) 102. The FPA converts the focussed electromagnetic signal to a plurality of sensed signals that are output on medium 109, to a focal plane array processor 108. The focal plane array processor 108 processes the plurality of sensed signals such as, for example, by digitizing the plurality of sensed signals to provide a plurality of digital signals and by adjusting the plurality of digital signals for any differences in gain or other non-uniformities between the plurality of detector devices of the focal plane array to provide a plurality of processed signals. The plurality of processed signals are then output on medium 111 to a display processor 110."

It is acknowledged that it is known that the UFPA detecting surface is placed in the "optical path so as to allow the impingement of the infrared rays" thereon.

6. col. 31, lines 30-48, second time; "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

See comments as to #4 above. Further, in the originally filed claim, the reference numeral (84) was identified as the "means". This referred to item 84 in Fig. 7B, page 13 of the spec, line 6 et seq. This is a spectrally coated window having a band width of 3 to 14um used to replace the conventional window having a spectral band width of 8 to 14 um. New claim 19 includes as part

of the methodology, employment of this broader bandwidth window and as such is distinguishable over the Marshall reference.

7. Fig. 1D and col. 10, lines 34-53, second time; "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

It is acknowledged that it is known that the "UFPA detector provid[es] an electrical output proportional to the energy of the infrared rays impinging ...[on the] detecting surface" as stated in the preamble of new claim 19.

8. col. 31, lines 30-48, third time; "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

Again, see comments as to #4 above. Further, as called for in original claim 1 and 14, the first and second infrared band pass filter were "removably interposed in said optical path upon direction of an operator". This contrasts with the layer of material employed by Marshall as noted at the cited column reference and the fact that, once in place, the layer would always be in place; and that its stated purpose is to enhance the probability of detection, a teaching of no relevance to the present invention. Still further, in new claim 19, the methodology calls for employing a "first and second infrared band pass filter ... [each of which has] a pass band centered at a [particular] wavelength" with the center wavelength characterized further; and that "one or the other of said band pass filters is interposed in [the]optical path depending on the temperature range of the target surface" when "means on said instrument [is] activated by an operator". There is no teaching by this reference in this regard .

9. col. 39, lines 33-42; "The sensor may also include the control electronics 114 and the signal processing electronics 108, 110 as discussed above with respect to FIG. 1D. The signal processing electronics perform offset, gain, and correction as discussed above. The control electronics sample housekeeping data and provide closed-loop control of the steering mirror, an aperture cover door 238, the filter wheel 236 and motors 232, 237. The thermal electric cooler 34 provides temperature control to the FPA and to the band-pass filter assembly for accurate calibration and for accurate measurements."

The examiner uses this citation in relation to language in the originally filed claim 1 about "each of said band pass filters removably interposed in said optical path". However in original claim 1 and 14, and again in new claim 19, once the temperature range was known, a corresponding filter is selected. The reference to the "thermal electric cooler 34 provides temperature control to the FPA and to the band-pass filter assembly" in this citation, if one reads at col. 39, lines 20-24, the "band pass filter assembly 236 ... is preferably a filter wheel that spins at a constant velocity".

Certainly not the alternate band pass filter arrangement as claimed in claim 19(d) and (e), any one of which, when selected and positioned , remains stationary through the imaging procedure.

10. Figs. 28A-28C and col. 34, lines 7-31. "Still another embodiment of an uncooled IR sensor of the present invention is a miniature camera/recorder (hereinafter a "camcorder") such as is illustrated in FIGS. 30a-30b. FIG. 30a illustrates a cross-sectional view of the camcorder, and FIG. 30b is a block diagram of the camcorder. It is to be appreciated that parts similar to the uncooled IR sensor of FIG. 1D are identified with similar reference numbers, and any description thereof is not repeated. The camcorder 150 may include a recorder 152 for recording signals on a suitable recording medium 154. It is to be appreciated that the recording medium can be any recording medium known to one of ordinary skill in the art such as, for example, a magnetic recording tape of a VHS, 8 mm, or BETA format. In a preferred embodiment of the camcorder, the display 112 may include a view finder 145 as well as a CRT or FPD 133. In addition, in the preferred embodiment the supply electronics 116 may be a rechargeable battery pack, and the controller 114 may include control knobs 147 and electronics for rewinding, fast forwarding, and playing back the recording medium. The camcorder may be used in at least one IR wavelength band of interest to provide a long-range camcorder that can be used at night, in the daytime, to penetrate smoke or inclement weather, and the like. In addition, the camcorder may be a self-contained unit having a reduced size, weight and power consumption and also having an increased reliability and sensitivity."

The "electronic means (116)" referred to by the examiner, from the above, "may be a rechargeable battery pack"; or perhaps, "electronics for rewinding…[etc.]". The "electronic means" as claimed in original claims 1 and 14 were characterized as "convert[ing] …[the] electrical output … [from the UFPA] into at least one interpretable output … whereby an operator is presented with information sufficient to determine the temperature(s) of the target surface(s) within an acceptable degree of accuracy." This is not taught or suggested by the above. In new claim 19, the "electronic means" are characterized as being programmed "with at least respective algorithms …for processing said electrical output of said UFPA detector". Thus the further characterization is further yet from the "teaching" above.

The Secondary Reference – Ariessohn et al (US RE 33,857)

The following specification citation for this reference appears in this action as having application to all originally filed claims.

1. col. 2, lines 50-60. " A number of imaging systems have been developed for viewing interiors of closed, hot vessels other than recovery boilers, to determine some internal characteristic or condition. Most of these systems are designed for use in blast furnaces, coke ovens and the like.

In a recovery boiler, typical smelt bed temperatures are at about 1000.degree. C., with overlying combustion gases at temperatures of 1100.degree.-1300.degree. C. In blast furnaces, the stock or ore/coke surface temperatures are on the order 150.degree.-300.degree. C. and the overlying gases are at temperatures of 90.degree.-130.degree. C."

A high temperature range is discussed in the Ariessohn. It also notes the use of a "practical filter ...centered at 1.68 micrometers ... [with] a band width of 0.07 micrometers: to avoid "the interferences caused by fume particles and gases which overlie the smelt bed surfaces and obscure visibility of those surfaces" (col. 4, lines 36-42). This filtering is needed to provide a "continuous visual image of the physical conditions in the interior of a hot vessel" which is the stated purpose of this invention. (col. 1, lines 13,14). This patent does not deal with the measurement of target surface temperature and only deals with high temperature environments. Marshall deals with event monitoring principally in the 10 to 14um range but allows for use in the 4 to 8um range through the use of a further layer of VO_x (col. 31, lines30-48). It too is not involved in temperature monitoring. Since the problem to be solved is the measurement of temperatures in either of the two temperature ranges disclosed in the claims, and neither of these two references are directed to temperature measurement, the motivation to modify the Marshall reference with the teachings of Ariessohn is not there. (MPEP 2143.01, Rev, 5, Aug.2006).

The Secondary Reference – Cole et al (US RE 37,146E)

The following specification citation for this reference appears in this action as having application to all originally filed claims.

1. col. 2, lines 24-36. "The emitter resistor has a large operating temperature range via: low negative thermal coefficient of resistance (TCR) in the 20-650 degree Kelvin temperature range is ideally suited to a drive mode of projection driven by electrical current, the pixel resistance of about 40 kOhms provides optimal heating at low electrical current levels, and the emitter material has a resistance of about 1 kOhm per square, thereby permitting use of a 40 square serpentine pattern which fits into the small pixel geometry. The emitter thermal design accounts for low temperatures: silicon nitride films, implementations of a cold heat sink that reduces effective hot conductance by 50%, and pixel design pre-adjusted for temperature-dependent time constants."

As noted in the Field of the Invention, the microstructure array of the Cole invention "operates at cryogenic temperatures". This is exactly what the present invention is looking to avoid (page 3, lines 32 et seq.). Marshall also deals with uncooled FPAs and Ariessohn uses a video camera, including a vidicon tube so the motivation to modify Marshall alone or taken together with Ariessohn does not exist. (MPEP 2143.01, Rev, 5, Aug.2006).

Marshall - as to originally filed claim 2

1. col. 11, lines 47-53; "The optics 106 of the IR sensor 104 may be any of a plurality of standard optics that are hand-adjustable, motorized, or athermalized. In particular, FIG. 1E illustrates a plurality of manually adjustable lenses, motorized lenses or athermalized lenses having various apertures (mm/in), field of views (FOV)a F/No.(H), EFL (mm). Any of these lens assemblies may be attached to the uncooled IR sensor."

and,

col. 34, lines 50-67. "Still, another embodiment of an uncooled IR Sensor of the present invention is to the imaging radiometer/spectrometer such as is illustrated in FIGS. 32a-32b. FIG. 32a illustrates a cross-sectional view of the imaging radiometer/spectrometer 171, and FIG. 32b illustrates a block diagram of the imaging radiometer/spectrometer. It is to be appreciated that parts similar to the uncooled IR sensor of FIG. 1D are identified

with similar reference numbers and any description thereof is not repeated. In the imaging radiometer/spectrometer, the lens 106 can be either one of a spectral-splitting lens 172, which may be used to provide a spectrometer, and an imaging lens 174 that may be used to provide the radiometer. The imaging radiometer may be used to measure a temperature of a scene on which the radiometer is focused, and the spectrometer may be used to measure an energy or power emitted by the scene as a function of the wavelength at which the scene is emitting the electromagnetic signal."

As to the first citation, the particular type and treatment of lenses is certainly not apparent from the language cited. As to the second citation, from a review of Fig. 32A, "either one of a spectral – splitting lens 172, ... [or] an imaging lens174 ... may be used". The type, material of construction or coating treatment as claimed before in claims 2, 3 and 4 and as now claimed in new claim 19, is not suggested by the Marshall reference.

Marshall - as to originally filed claims 6-9

1. Fig. 1A and col. 31, lines 30-48. "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

Original claims 6-9 dealt with the optimization of the spectral band width of the UFPA detector through the use of a spectral transmission window with a spectral band width of 3um to 14 um. This is now found as element (c) in the new methodology set out in claim 19 which calls for

"employing a spectral transmission window that has a spectral band width of 3um to 14um for" the UFPA detector. Marshall discusses the use of a window and providing an UFPA with an expanded range from 4 to 14um. Presumably, the window will have a sufficient bandwidth to accommodate the expanded bandwidth UFPA.

Marshall - as to originally filed claims 10 and 15

1. col. 39, lines 16-24. "Thus the steering mirror 231 provides several functions including: periodic on board calibration of a black body, space viewing, viewing over the poles off the velocity vector and fast response rejection of a direct view of the sun. The sensor may also include a band pass filter assembly 236 which is preferably a filter wheel that spins at a constant velocity under control of motor 237 so as to provide measurement of a plurality of narrow vertical resolution cells ng a same field of view."

Claims 10 and 15 dealt with a benefit of operating with the 8 to 14um filter in place. It is not specifically claimed, although the benefit still exists, in the newly added claims.

Marshall - as to originally filed claims 11 and 16; 12 and 17; and 13 and 18

1. col. 31, lines 30-48. "This increased wavelength band of operation may allow any of the uncooled IR sensor devices to be used, for example, over two wavelength bands of operation. In particular, the uncooled IR sensor may be used, for example, in threat warning applications to provide a higher probability of detection and reduced false alarm rates by using the uncooled IR sensor over two separate and distinct wavelength ranges of operation such as, for example, 10 to 14 .mu.m and 4 to 8 .mu.m. Such operation of the device 104 helps to eliminate a problem called contrast inversion which typically results when various targets that have different temperatures and emissivities have the same radiant emittence in a spectral band of operation. Therefore, an advantage of this embodiment of the uncooled IR sensor including the wider band detector device is that it can be used over such separate wavelength bands of operation to improve performance by reducing false alarms and providing a higher probability of detection."

These sets of claims dealt with respective band widths for different applications of the "second band pass filter". They are reconstituted in the methodology format of the new claims as claims

20, 21 and 22. In these latter claims the "second infrared band pass filter" is characterized as to the respective center frequencies of "approximately" 3.9um, or 5.0um or 6.8um for the respective examples set out in the specification. The examiner concludes presumably that since Marshall discloses a band width of 4 to 8um and 10 to 14um, that he thus "discloses the device wherein the spectral band width of the second band pass filter" is in the respective range. Marshall's invention is directed to "[m]ethods and apparatus for compensating a radiation sensor for ambient temperature variations." The various citations of examples by the examiner appear to be directed, not to temperature measurement of a target surface through intervening media but rather to event occurrences. The desirability for band pass filters of the nature specified in Marshall is not apparent so the examiner's conclusion would not appear to be supported. Notwithstanding, considering the other elements of the new claim 19 alone or taken together with either of claims 20, 21 or 22, these are patentably distinguishable over the cited references.

The Secondary Reference – Wood et al (US RE 37,146E)

The following specification citation for this reference appears in this action as having application to claims 3-5 and 14-18.

1. col. 2, lines 47-56. "In the present embodiment the range of sensitive wavelengths is limited to those wavelengths effectively transmitted by the lens 42 and package window 16. Although those skilled in the art recognize that improved transmission coatings will increase the effective wavelengths in the future in the current embodiment, the lens is a 4.28 cm focal length germanium lens 42, with anti-reflection coatings to efficiently transmit 8 to 12 um wavelengths. The package window 16 is germanium, also with anti reflective coating to efficiently transmit 8 to 12 um wavelengths."

Claims 3-5 and 14-18 dealt with the lenses fabricated from germanium; and with each lens in the "optical assembly" including "an anti-reflection coating with a spectral band width of 3 to 14um". These elements are now included in new claim 19(b). There is no teaching in Wood

about the anti reflection coating being of a larger band width, i.e., "3", not "8", to 14 um. It is not clear how the examiner finds support for the lower end of the band width as 3um since it is not expressly set out in Wood et al nor apparently is it implicit.

For the numerous distinctions made between the cited references, taken alone or together as proposed by the examiner, it is clear that the " method for enhancing the capabilities of a portable, hand-held lightweight thermal imaging instrument such as Mikron Infrared Company's Model # 7200, so as to permit the thermal imaging of target surface(s) having lower temperatures typically in a first range between -40°C and 500°C or, alternately, of target surface(s) having higher temperatures typically in the range between 400°C and 2000°C" as more particularly st forth in claim 19 and the claims dependent therefrom, are patentably distinguishable over the cited art taken alone or in combination.

Again, a reconsideration and reexamination of the case and claims now placed before the examiner is requested. Its allowance and passing to issue in due course is likewise, respectfully solicited.

Respectfully submitted,

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